In The Claims:

Please cancel Claims 1-16 without prejudice, and add new Claims 17-36.

1-16. (Cancelled)

17. (New) A system for error-erasure correcting modulated data reproduced from an optical disc, the system comprising:

a demodulator for receiving channel code symbols and demodulating each valid channel code symbol into an information data symbol, providing an arbitrary information data symbol for each invalid channel code symbol, and setting a first single-bit erasure flag for each invalid channel code symbol;

a first buffer in signal communication with the demodulator for receiving the information data symbols and corresponding first erasure flags, and composing a first code word including a plurality of information data symbols and their corresponding first erasure flags; and

a first error-erasure decoder in signal communication with the first buffer for receiving the first code word, checking for erasures by performing a single-bit operation on all of the first single-bit erasure flags of the received first code word, and if any erasures are detected, correcting up to a first maximum number of correctable erasures and then correcting a number of actual errors not to exceed one half of the first maximum number of correctable erasures reduced by one half of the number of

corrected erasures, and if no erasures are detected, correcting only actual errors of the first code word.

18. (New) A system as defined in Claim 17 wherein, if the original number of erasures indicated by the first single-bit erasure flags of the first code word exceeds the first maximum number of correctable erasures, the first error-erasure decoder sets a corresponding second single-bit erasure flag for each uncorrected erasure, and if the number of post-erasure-correction actual errors exceeds one half of the first maximum number of correctable erasures reduced by one half of the number of corrected erasures, the first error-erasure decoder sets the second single-bit erasure flag for each information data symbol of the first code word.

19. (New) A system as defined in Claim 18, further comprising:

a second buffer in signal communication with the first error-erasure decoder for receiving the information data symbols of the first code word along with their corresponding second single-bit erasure flags from the first error-erasure decoder and composing a second code word including a plurality of information data symbols and their corresponding second single-bit erasure flags; and

a second error-erasure decoder in signal communication with the second buffer for receiving the second code word, checking for erasures by performing a single-bit operation on all of the second single-bit erasure flags of the received second code word, and if any erasures are detected, correcting up to a second maximum number of

correctable erasures and then correcting a number of actual errors not to exceed one half of the second maximum number of correctable erasures reduced by one half of the number of corrected erasures, and if no erasures are detected, correcting only actual errors of the second code word.

20. (New) A system as defined in Claim 19 wherein, if the number of erasures indicated by the second single-bit erasure flags of the second code word exceeds the second maximum number of correctable erasures, the second error-erasure decoder sets the information data symbol of the second code word to an erasure symbol for each uncorrected erasure, and if the number of post-erasure-correction actual errors exceeds one half of the second maximum number of correctable erasures reduced by one half of the number of erasures corrected by the second error-erasure decoder, the second error-erasure decoder sets each information data symbol of the second code word to an erasure symbol.

21. (New) A system for channel decoding and error-correcting modulated data reproduced from an optical disc, the system comprising means for:

(a) setting a channel code including channel data patterns of channel data symbols and information data symbols that correspond to respective channel data patterns;

(b) producing demodulated data including the information data symbols and erasure flags by demodulating the channel data symbols, using the channel code; and

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(c) performing correction of erasures and then errors of unknown location on the information data symbols produced in the step (b), using error locations indicated by the erasure flags having a predetermined value,

wherein the step (b) of producing demodulated data comprises the steps of;

(b1) outputting the information data symbols if the channel code has the information data symbols corresponding to the channel data patterns; and

(b2) outputting erasure symbols as the information data symbols and setting the erasure flags to the predetermined value if the channel code has no information data symbols corresponding to the channel data patterns.

22. (New) A system as defined in Claim 21 wherein each of the erasure symbols is one of the information data symbols in the channel code or a predetermined value.

23. (New) A system as defined in Claim 21 wherein the channel code is one of an EFM code and an EFM+ code.

24. (New) A system as defined in Claim 23 wherein the demodulated data includes 8-bit information data symbols and 1-bit erasure flags.

25. (New) A system for channel decoding and error correcting modulated data reproduced from an optical disc, the system comprising:

a channel decoder, including a channel code having channel data patterns that channel data symbols can have and information data symbols which correspond individually to the channel data patterns, and for producing demodulated data having the information data symbols and erasure flags by demodulating the channel data symbols, using the channel code.

a memory for storing the demodulated data outputted from the channel decoder; and

a decoding unit for performing correction of erasures and then errors of unknown location on the information data symbols, using error locations indicated by the erasure flags having a predetermined value,

wherein the channel decoder outputs the information data symbols if the channel code has the information data symbols corresponding to the channel data patterns, and the channel decoder outputs erasure symbols as the information symbols and sets the erasure flags to the predetermined value if the channel code has no information data symbols corresponding to the channel data patterns.

26. (New) A system as defined in Claim 25 wherein each of the erasure symbols is one of the information data symbols in the channel code or a predetermined value.

27. (New) A system as defined in Claim 25 wherein the channel code is one of an EFM code and an EFM+ code.

28. (New) A system as defined in Claim 27 wherein the demodulated data includes 8-bit information data symbols and the 1-bit erasure flags.

29. (New) A system as defined in Claim 25 wherein the decoding unit includes:

a means for receiving from the memory code words obtained from the demodulated data;

a means for detecting a code word having more than a predetermined number of errors; and

a means for providing second erasure flags of a predetermined value to information data symbols of the detected code word.

30. (New) A system as defined in Claim 29 wherein the predetermined number is two (2) for a compact disc (CD) system or five (5) for a digital versatile disc (DVD) system.

31. (New) A system as defined in Claim 29, further comprising:

a means for deinterleaving data from the decoding unit to generate deinterleaved code words containing the information data symbols and the second erasure flags; and

a second decoding unit for performing correction of erasures and then errors of unknown location on the information data symbols of the deinterleaved code words using the second erasure flags.

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32. (New) A system for correcting errors and erasures in modulated channel data reproduced from an optical disc, the system comprising means for:

providing a channel code having channel data patterns of the modulated channel data and information data symbols corresponding to the channel data patterns, respectively;

comparing channel data symbols of the modulated channel data with the channel data patterns in the channel code;

producing information data symbols corresponding to channel data patterns of the channel data symbols to form demodulated data;

producing erasure symbols with erasure flags to form the demodulated data when the channel code has no channel data patterns matching the channel data symbols;

providing code words obtained from the demodulated data; and

correcting erasures and then actual errors in the code words using the erasure flags.

33. (New) A system as defined in Claim 32 wherein the channel code is an EFM code for a compact disc (CD) system and an EFM+ code for a digital versatile disc (DVD) system.

34. (New) A system as defined in Claim 32, further comprising:

detecting a code word having more than a predetermined number of errors; and

providing second erasure flags of a predetermined value to the detected code word.

35. (New) A system as defined in Claim 34 wherein the second erasure flags are provided to the detected code word such that each of the second erasure flags is attached to each of information data symbols or erasure symbols of the detected code word.

36. (New) A system as defined in Claim 34, further comprising:

deinterleaving the code words on which the correcting step has been performed; and

correcting errors and erasures in the deinterleaved code words by locating defective symbols using the second erasure flags.